## Mississippi Prepaid Affordable College Tuition Plan

Pricing Report for the 2017/2018 Academic Year





September 18, 2017

Board of Trustees Mississippi Prepaid Affordable College Tuition Plan 501 North West Street, Suite 1101 Jackson, MS 39201

Attention: Ms. Lynn Fitch, State Treasurer

Re: MPACT Pricing Report as of June 30, 2017

#### **Dear Trustees:**

Gabriel, Roeder, Smith & Company (GRS) has performed the pricing for the Mississippi Prepaid Affordable College Tuition Plan (MPACT) for fiscal year 2018. The purpose of this report is to set the Plan's pricing for future contracts in the Horizon Plan and the Weighted Average Tuition (applicable to Horizon and Legacy Plan) for the 2017/2018 academic year.

#### This report presents:

- A calculation of the Weighted Average Tuition (WAT) for the 2017/2018 academic year; and
- A calculation of the future pricing for new contracts in MPACT's Horizon Plan during the 2017/2018 academic year.

This report was prepared at the request of the MPACT Board and is intended for use by the MPACT Board and those designated or approved by the MPACT Board. This report may be provided to parties other than the MPACT Board only in its entirety and only with the permission of the MPACT Board. GRS is not responsible for unauthorized use of this report. This report should not be relied on for any purpose other than the purpose described above.

The pricing results set forth in this report are based upon data and information, furnished by MPACT, concerning Plan benefits, the Board's funding policy, and current tuition and enrollment information of Mississippi Colleges and Universities. We reviewed this information for internal and year-to-year consistency, but did not audit the data. We are not responsible for the accuracy or completeness of the information provided by MPACT.

There are currently no Actuarial Standards of Practice that specifically refer to prepaid tuition plans. We have followed the guidance from the Actuarial Standards of Practice on pensions due to its similar nature. The pricing calculations summarized in this report involve actuarial calculations that require assumptions

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about future events. The major actuarial assumptions used in this analysis were adopted by and are the responsibility of the Plan and the Plan's Board. We have not performed a detailed experience study but have performed annual assumption reviews for the Board. Based on our limited analyses, we believe these assumptions are within a reasonable range and are in compliance with actuarial standards regarding similar actuarial calculations. The WAT and pricing calculations summarized in this report are also based on methods adopted by the Board. There is more than one set of reasonable methods for these calculations.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: Plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; and changes in Plan provisions or applicable law.

We believe that the actuarial methods and assumptions used in this report are reasonable and appropriate for the purpose for which they have been used. In addition, because it is not possible or practical to consider every possible contingency, we may use summary information, estimates or simplifications of calculations to facilitate the modeling of future events. We may also exclude factors or data that are deemed to be immaterial.

This report is not a recommendation to anyone to participate in MPACT. GRS makes no representations or warranties to any person participating in or considering participation in the Plan.

To the best of our knowledge, the information contained in this report is accurate and fairly presents the actuarial pricing of the Mississippi Prepaid Affordable College Tuition Plan contracts for the 2017/2018 academic year based on the Board's funding policy and administrative rules.

David T. Kausch is a Member of the American Academy of Actuaries (MAAA) and meets the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained herein.

The signing individuals are independent of the plan sponsor.

Respectfully submitted,

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Kenneth G. Alberts

David TyauseL

David T. Kausch, FSA, EA, FCA, MAAA

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**WEIGHTED AVERAGE TUITION** 

## **Weighted Average Tuition Development**

The Weighted Average Tuition (WAT) is an average of the tuition charged by participating schools, weighted by their resident enrollment. It is the basis on which the costs of the program are established. In addition, for participants who chose private or out-of-state schools, the WAT is used to determine the benefit payable upon matriculation.

2017/2018 Weighted Average Tuition (WAT) Development for Universities

	2016 Fall Resident			
	Student	Computation of	2017/2018 Tuition &	<b>Proportionate Share</b>
	Enrollment	Weighting^	Required Fees	Based on Weighting
Alcorn State University	2,591	4.49%	\$ 6,918	\$ 310.62
Delta State University	2,972	5.15%	6,859	353.24
Jackson State University	7,516	13.02%	7,621	992.25
Mississippi State University	14,349	24.86%	8,318	2,067.85
Mississippi University for Women	2,520	4.37%	6,614	289.03
Mississippi Valley State University	1,895	3.28%	6,422	210.64
University of Mississippi	14,358	24.88%	8,294 #	2,063.55
University of Southern Mississippi	11,514	19.95%	8,218	1,639.49
Total	57,715	100.00%	2017/2018 WAT*	\$ 7,927
			2016/2017 WAT	\$ 7,425
			Increase over 2016/2017	
			WAT	6.8%

<sup>\*</sup> Annual WAT is rounded to the nearest dollar.

<sup>^</sup>Total may not add due to rounding

Per Credit Hour, based on 31 credit hours per year	Per Quarter Credit Hour, based on 31 credit hours per year (prior method
(prior method reduced from 32 credit hours to 31).	reduced) for schools on a trimester academic calendar year.
\$255.71	\$170.47

In the recent past, enrollment has been provided based on: 1) full resident enrollment (as shown above); and 2) undergraduate resident enrollment. We tested the calculation using the undergraduate resident enrollment and determined the WAT using that basis was within a few dollars of the WAT using the full resident enrollment. We, therefore, used the full resident enrollment to be consistent with the historical calculations.



<sup>#</sup> Average Tuition & Required Fees for the University of Mississippi and the University of Mississippi Medical Center (\$8,300 and \$8,268 respectively) weighted by reported 2016 Fall enrollments (11,824 and 2,534 respectively).

## **Weighted Average Tuition Development**

2017/2018 Weighted Average Tuition (WAT) Development for Community Colleges

	2016 Fall Resident	Computation of	2017/2018 Tuition &	Proportionate Share
	Student Enrollment	Weighting^	Required Fees	Based on Weighting
Coahoma CC	2,005	2.89%	\$ 2,870	\$ 82.94
Copiah-Lincoln CC	2,859	4.12%	3,180	131.02
East Central CC	2,277	3.28%	2,790	91.51
East Mississippi CC	3,999	5.76%	3,240	186.62
Hinds CC	11,043	15.90%	3,080	489.72
Holmes CC	5,995	8.63%	3,110	268.39
Itawamba CC	5,510	7.93%	2,800	222.04
Jones County JC	4,561	6.57%	3,480	228.64
Meridian CC	3,375	4.86%	2,914	141.62
Mississippi Delta CC	2,209	3.18%	3,060	97.31
Mississippi Gulf Coast CC	8,621	12.41%	3,220	399.60
Northeast Mississippi CC	3,386	4.88%	3,202	156.26
Northwest Mississippi CC	7,478	10.77%	3,000	323.10
Pearl River CC	4,367	6.29%	3,410	214.49
Southwest Mississippi CC	1,763	2.54%	3,200	81.28
Total	69,448	100.01%	2017/2018 WAT*	\$ 3,115
			2016/2017 WAT	\$ 2,797
			2010/2017 WAT	۷,797
			Increase over 2016/2017	
			WAT	11.4%

<sup>\*</sup> Annual WAT is rounded to the nearest dollar.

<sup>^</sup>Total may not add due to rounding

Per Credit Hour, based on 31 credit hours per year (prior method reduced from 32 credit hours to 31).	Per Quarter Credit Hour, based on 31 credit hours per year (prior method reduced) for schools on a trimester academic calendar year.
\$100.48	\$66.99



## **SECTION B**

**PRICING** 

## **2017-2018** Academic Year – Four-Year Senior College/University Plan

	Accounting for an average usage of 12.8 credit hours per semester and 9.4 semesters to graduate														
Age/Grade of	Projected	Annual	Present	Lump Sum	IV	Ionthly Extended I	Plan Monthly Payme	nt	Monthly 5	-Year Plan - Monthl	y Payment	Monthly 8	-Year Plan - Monthl	y Payment	
Beneficiary as of	Enrollment	Tuition	Value	Single	Number of	Lump Sum Amount				<b>Lump Sum Amount</b>	:	Lump Sum Amount			
Sept. 1, 2017	Year	Increase	of Benefits	Payment	Payments	\$0	\$ 2,000	\$5,000	\$0	\$2,000	\$5,000	\$0	\$2,000	\$5,000	
12th Grade	2018	8.80%	\$ 40,184	\$ 46,521	4	\$11,804	\$11,297	\$10,536	N/A	N/A	N/A	N/A	N/A	N/A	
11th Grade	2019	8.80%	41,090	47,570	16	3,126	2,995	2,798	N/A	N/A	N/A	N/A	N/A	N/A	
10th Grade	2020	8.80%	41,729	48,310	28	1,879	1,801	1,684	N/A	N/A	N/A	N/A	N/A	N/A	
9th Grade	2021	8.80%	42,054	48,686	40	1,372	1,315	1,231	N/A	N/A	N/A	N/A	N/A	N/A	
8th Grade	2022	8.80%	42,064	48,698	52	1,092	1,047	980	N/A	N/A	N/A	N/A	N/A	N/A	
7th Grade	2023	8.80%	41,756	48,341	64	911	873	817	\$961	\$921	\$861	N/A	N/A	N/A	
6th Grade	2024	4.80%	41,128	47,614	76	781	748	699	946	907	847	N/A	N/A	N/A	
5th Grade	2025	4.80%	40,510	46,899	88	687	657	613	932	892	833	N/A	N/A	N/A	
4th Grade	2026	4.80%	39,782	46,056	100	613	586	546	915	876	816	\$632	\$604	\$563	
3rd Grade	2027	4.80%	38,933	45,073	112	553	528	492	896	856	797	618	591	550	
2nd Grade	2028	4.80%	37,968	43,956	124	503	480	445	874	834	774	603	575	534	
1st Grade	2029	4.80%	36,893	42,711	136	459	438	406	849	809	750	586	558	517	
Kindergarten	2030	3.00%	35,714	41,346	148	421	401	370	822	782	722	567	540	498	
4 Year Old	2031	3.00%	34,573	40,073	160	389	370	341	797	757	697	550	522	481	
3 Year Old	2032	3.00%	33,468	38,853	172	362	343	315	772	733	673	533	505	464	
2 Year Old	2033	3.00%	32,399	37,670	184	338	320	293	749	709	649	517	489	448	
1 Year Old	2034	3.00%	31,363	36,523	196	317	299	273	726	686	627	501	473	432	
Newborn	2035	3.00%	30,361	35,448	208	298	281	256	705	665	605	486	459	418	



# 2017-2018 Academic Year – Four-Year Senior College/University Plan (Concluded)

	Accounting for an average usage of 12.8 credit hours per semester and 9.4 semesters to graduate													
Age/Grade of	Monthly 10	)-Year Plan - Month	ly Payment	Monthly 12	2-Year Plan - Month	ly Payment	Annual 3	3-Year Plan - Annua	Payment	Annual !	-Year Plan - Annua	Payment		
Beneficiary as of		<b>Lump Sum Amount</b>			Lump Sum Amount			Lump Sum Amoun	t	Lump Sum Amount				
Sept. 1, 2017	\$0	\$2,000	\$5,000	\$0	\$2,000	\$5,000	\$0	\$2,000	\$5,000	\$0	\$2,000	\$5,000		
12th Grade	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		
11th Grade	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		
10th Grade	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		
9th Grade	N/A	N/A	N/A	N/A	N/A	N/A	\$18,688	\$17,920	\$16,768	N/A	N/A	N/A		
8th Grade	N/A	N/A	N/A	N/A	N/A	N/A	18,692	17,925	16,773	N/A	N/A	N/A		
7th Grade	N/A	N/A	N/A	N/A	N/A	N/A	18,555	17,788	16,636	\$11,916	\$11,423	\$10,684		
6th Grade	N/A	N/A	N/A	N/A	N/A	N/A	18,276	17,508	16,357	11,737	11,244	10,505		
5th Grade	N/A	N/A	N/A	N/A	N/A	N/A	18,002	17,234	16,082	11,561	11,068	10,328		
4th Grade	N/A	N/A	N/A	N/A	N/A	N/A	17,678	16,910	15,759	11,353	10,860	10,121		
3rd Grade	N/A	N/A	N/A	N/A	N/A	N/A	17,301	16,533	15,382	11,111	10,618	9,878		
2nd Grade	\$514	\$491	\$456	N/A	N/A	N/A	16,872	16,104	14,953	10,836	10,343	9,603		
1st Grade	499	476	441	N/A	N/A	N/A	16,394	15,626	14,475	10,529	10,036	9,296		
Kindergarten	483	460	425	\$429	\$408	\$377	15,870	15,103	13,951	10,192	9,699	8,960		
4 Year Old	469	445	410	416	395	364	15,382	14,614	13,462	9,878	9,385	8,646		
3 Year Old	454	431	396	403	382	351	14,913	14,146	12,994	9,578	9,085	8,345		
2 Year Old	440	417	382	391	370	339	14,459	13,692	12,540	9,286	8,793	8,053		
1 Year Old	427	404	369	379	358	327	14,019	13,251	12,100	9,003	8,510	7,771		
Newborn	415	391	356	368	347	316	13,606	12,839	11,687	8,738	8,245	7,506		



## 2017-2018 Academic Year – Two-Year Senior College/University Plan

	Accounting for an average usage of 12.8 credit hours per semester and 9.4 semesters to graduate														
Age/Grade of	Projected	Annual	Present	Lump Sum			an Monthly Paymer			-Year Plan - Monthl	y Payment	Monthly 8-	Year Plan - Monthl	y Payment	
Beneficiary as of	Enrollment	Tuition	Value	Single	Number of	Lump Sum Amount				<b>Lump Sum Amount</b>		Lump Sum Amount			
Sept. 1, 2017	Year	Increase	of Benefits	Payment	Payments	\$0	\$2,000	\$5,000	\$0	\$2,000	\$5,000	\$0	\$2,000	\$5,000	
12th Grade	2018	8.80%	\$ 19,743	\$ 22,857	4	\$5,800	\$5,292	\$4,531	N/A	N/A	N/A	N/A	N/A	N/A	
11th Grade	2019	8.80%	20,188	23,372	16	1,536	1,405	1,207	N/A	N/A	N/A	N/A	N/A	N/A	
10th Grade	2020	8.80%	20,643	23,899	28	929	852	735	N/A	N/A	N/A	N/A	N/A	N/A	
9th Grade	2021	8.80%	21,109	24,438	40	689	632	548	N/A	N/A	N/A	N/A	N/A	N/A	
8th Grade	2022	8.80%	21,434	24,814	52	556	512	444	N/A	N/A	N/A	N/A	N/A	N/A	
7th Grade	2023	8.80%	21,436	24,817	64	468	430	373	\$493	\$454	\$394	N/A	N/A	N/A	
6th Grade	2024	4.80%	21,114	24,444	76	401	368	319	486	446	386	N/A	N/A	N/A	
5th Grade	2025	4.80%	20,796	24,076	88	352	323	279	479	439	379	N/A	N/A	N/A	
4th Grade	2026	4.80%	20,483	23,713	100	316	289	249	471	432	372	\$325	\$298	\$257	
3rd Grade	2027	4.80%	20,175	23,357	112	287	262	225	464	425	365	320	293	252	
2nd Grade	2028	4.80%	19,810	22,934	124	262	239	205	456	416	356	315	287	246	
1st Grade	2029	4.80%	19,315	22,361	136	241	219	187	444	405	345	307	279	238	
Kindergarten	2030	3.00%	18,698	21,647	148	221	200	170	430	391	331	297	269	228	
4 Year Old	2031	3.00%	18,101	20,956	160	204	184	155	417	377	317	287	260	219	
3 Year Old	2032	3.00%	17,522	20,309	172	189	171	143	404	364	304	279	251	210	
2 Year Old	2033	3.00%	16,962	19,690	184	177	159	132	391	352	292	270	243	201	
1 Year Old	2034	3.00%	16,420	19,091	196	165	148	122	379	340	280	262	234	193	
Newborn	2035	3.00%	15,896	18,509	208	156	139	114	368	328	269	254	226	185	



# 2017-2018 Academic Year – Two-Year Senior College/University Plan (Concluded)

	Accounting for an average usage of 12.8 credit hours per semester and 9.4 semesters to graduate													
Age/Grade of	Monthly 10	0-Year Plan - Month	y Payment	Monthly 12	2-Year Plan - Month	ly Payment	Annual 3	-Year Plan - Annual	Payment	Annual 5	-Year Plan - Annual	Payment		
Beneficiary as of		<b>Lump Sum Amount</b>			<b>Lump Sum Amount</b>			Lump Sum Amoun	t	Lump Sum Amount				
Sept. 1, 2017	\$0	\$2,000	\$5,000	\$0	\$2,000	\$5,000	\$0	\$2,000	\$5,000	\$0	\$2,000	\$5,000		
12th Grade	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		
11th Grade	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		
10th Grade	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		
9th Grade	N/A	N/A	N/A	N/A	N/A	N/A	\$9,380	\$8,613	\$7,461	N/A	N/A	N/A		
8th Grade	N/A	N/A	N/A	N/A	N/A	N/A	9,525	8,757	7,605	N/A	N/A	N/A		
7th Grade	N/A	N/A	N/A	N/A	N/A	N/A	9,526	8,758	7,607	\$6,118	\$5,625	\$4,885		
6th Grade	N/A	N/A	N/A	N/A	N/A	N/A	9,383	8,615	7,463	6,026	5,533	4,793		
5th Grade	N/A	N/A	N/A	N/A	N/A	N/A	9,241	8,474	7,322	5,935	5,442	4,702		
4th Grade	N/A	N/A	N/A	N/A	N/A	N/A	9,102	8,334	7,183	5,845	5,352	4,613		
3rd Grade	N/A	N/A	N/A	N/A	N/A	N/A	8,965	8,198	7,046	5,758	5,265	4,525		
2nd Grade	\$268	\$245	\$210	N/A	N/A	N/A	8,803	8,035	6,884	5,653	5,160	4,421		
1st Grade	261	238	203	N/A	N/A	N/A	8,583	7,815	6,664	5,512	5,019	4,280		
Kindergarten	253	230	195	\$224	\$204	\$173	8,309	7,541	6,390	5,336	4,843	4,104		
4 Year Old	245	222	187	217	197	165	8,044	7,276	6,125	5,166	4,673	3,933		
3 Year Old	237	214	179	211	190	159	7,795	7,028	5,876	5,006	4,513	3,774		
2 Year Old	230	207	172	204	183	152	7,558	6,790	5,639	4,854	4,361	3,621		
1 Year Old	223	200	165	198	177	146	7,328	6,560	5,409	4,706	4,213	3,474		
Newborn	216	193	158	192	171	140	7,104	6,337	5,185	4,563	4,070	3,330		



## 2017-2018 Academic Year - One-Year Senior College/University Plan

	Accounting for an average usage of 12.8 credit hours per semester and 9.4 semesters to graduate														
Age/Grade of	Projected	Annual	Present	Lump Sum	N	Ionthly Extended P	lan Monthly Payme	nt	Monthly 5	-Year Plan - Monthl	ly Payment	Monthly 8	-Year Plan - Monthl	y Payment	
Beneficiary as of	Enrollment	Tuition	Value	Single	Number of	Lump Sum Amount				Lump Sum Amount	t	Lump Sum Amount			
Sept. 1, 2017	Year	Increase	of Benefits	Payment	Payments	\$0	\$2,000	\$5,000	\$0	\$2,000	\$5,000	\$0	\$2,000	\$5,000	
12th Grade	2018	8.80%	\$9,741	\$ 11,277	4	\$2,861	\$2,354	\$1,593	N/A	N/A	N/A	N/A	N/A	N/A	
11th Grade	2019	8.80%	9,960	11,531	16	758	626	429	N/A	N/A	N/A	N/A	N/A	N/A	
10th Grade	2020	8.80%	10,185	11,791	28	459	381	264	N/A	N/A	N/A	N/A	N/A	N/A	
9th Grade	2021	8.80%	10,415	12,058	40	340	283	199	N/A	N/A	N/A	N/A	N/A	N/A	
8th Grade	2022	8.80%	10,650	12,330	52	277	232	164	N/A	N/A	N/A	N/A	N/A	N/A	
7th Grade	2023	8.80%	10,814	12,519	64	236	198	142	\$249	\$209	\$149	N/A	N/A	N/A	
6th Grade	2024	4.80%	10,652	12,332	76	202	169	120	245	205	146	N/A	N/A	N/A	
5th Grade	2025	4.80%	10,491	12,146	88	178	149	105	241	202	142	N/A	N/A	N/A	
4th Grade	2026	4.80%	10,334	11,964	100	159	133	93	238	198	138	\$164	\$137	\$96	
3rd Grade	2027	4.80%	10,178	11,783	112	145	120	83	234	194	135	162	134	93	
2nd Grade	2028	4.80%	10,025	11,606	124	133	110	76	231	191	131	159	132	91	
1st Grade	2029	4.80%	9,843	11,395	136	123	101	69	226	187	127	156	129	88	
Kindergarten	2030	3.00%	9,529	11,032	148	112	92	61	219	180	120	151	124	83	
4 Year Old	2031	3.00%	9,224	10,679	160	104	84	55	212	173	113	146	119	78	
3 Year Old	2032	3.00%	8,930	10,340	172	96	78	50	206	166	106	142	114	73	
2 Year Old	2033	3.00%	8,644	10,025	184	90	72	45	199	160	100	137	110	69	
1 Year Old	2034	3.00%	8,368	9,720	196	84	67	41	193	153	94	133	106	65	
Newborn	2035	3.00%	8,101	9,424	208	79	62	37	187	148	88	129	102	61	



# 2017-2018 Academic Year – One-Year Senior College/University Plan (Concluded)

	Accounting for an average usage of 12.8 credit hours per semester and 9.4 semesters to graduate													
Age/Grade of	Monthly 10	)-Year Plan - Month	ly Payment	Monthly 12	2-Year Plan - Month	ly Payment	Annual 3	-Year Plan - Annual	Payment	Annual 5	-Year Plan - Annual	Payment		
Beneficiary as of		<b>Lump Sum Amount</b>			<b>Lump Sum Amount</b>			Lump Sum Amount	i	Lump Sum Amount				
Sept. 1, 2017	\$0	\$2,000	\$5,000	\$0	\$2,000	\$5,000	\$0	\$2,000	\$5,000	\$0	\$2,000	\$5,000		
12th Grade	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		
11th Grade	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		
10th Grade	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		
9th Grade	N/A	N/A	N/A	N/A	N/A	N/A	\$4,628	\$3,861	\$2,709	N/A	N/A	N/A		
8th Grade	N/A	N/A	N/A	N/A	N/A	N/A	4,733	3,965	2,814	N/A	N/A	N/A		
7th Grade	N/A	N/A	N/A	N/A	N/A	N/A	4,805	4,038	2,886	\$3,086	\$2,593	\$1,853		
6th Grade	N/A	N/A	N/A	N/A	N/A	N/A	4,734	3,966	2,814	3,040	2,547	1,807		
5th Grade	N/A	N/A	N/A	N/A	N/A	N/A	4,662	3,894	2,743	2,994	2,501	1,762		
4th Grade	N/A	N/A	N/A	N/A	N/A	N/A	4,592	3,825	2,673	2,949	2,456	1,717		
3rd Grade	N/A	N/A	N/A	N/A	N/A	N/A	4,523	3,755	2,604	2,905	2,412	1,672		
2nd Grade	\$136	\$112	\$77	N/A	N/A	N/A	4,455	3,687	2,536	2,861	2,368	1,628		
1st Grade	133	110	75	N/A	N/A	N/A	4,374	3,606	2,455	2,809	2,316	1,576		
Kindergarten	129	106	71	\$114	\$94	\$63	4,235	3,467	2,315	2,719	2,226	1,487		
4 Year Old	125	101	66	111	90	59	4,099	3,331	2,180	2,632	2,139	1,400		
3 Year Old	121	98	62	107	86	55	3,969	3,201	2,050	2,549	2,056	1,316		
2 Year Old	117	94	59	104	83	52	3,848	3,080	1,929	2,471	1,978	1,239		
1 Year Old	114	90	55	101	80	49	3,731	2,963	1,812	2,396	1,903	1,164		
Newborn	110	87	52	98	77	46	3,617	2,850	1,698	2,323	1,830	1,091		



## 2017-2018 Academic Year – Two-Year Community College and Two-Year Senior College/University Plan

	Accounting for an average usage of 11.9/12.8 credit hours per semester														
Age/Grade of	Projected	Univ Annual	CC Annual	Present	Lump Sum	N	Nonthly Extended P	lan Monthly Payme	ent	Monthly 5	-Year Plan - Monthl	y Payment	Monthly 8	-Year Plan - Month	ly Payment
Beneficiary as of	Enrollment	Tuition	Tuition	Value	Single	Number of Lump Sum Amount				Lump Sum Amount		Lump Sum Amount			
Sept. 1, 2017	Year	Increase	Increase	of Benefits	Payment	Payments	\$0	\$2,000	\$5,000	\$0	\$2,000	\$5,000	\$0	\$2,000	\$5,000
12th Grade	2018	8.80%	8.30%	\$ 29,324	\$ 33,584	4	\$8,522	\$8,014	\$7,253	N/A	N/A	N/A	N/A	N/A	N/A
11th Grade	2019	8.80%	8.30%	29,796	34,124	16	2,243	2,111	1,914	N/A	N/A	N/A	N/A	N/A	N/A
10th Grade	2020	8.80%	8.30%	29,948	34,299	28	1,334	1,256	1,139	N/A	N/A	N/A	N/A	N/A	N/A
9th Grade	2021	8.80%	8.30%	29,777	34,103	40	961	905	820	N/A	N/A	N/A	N/A	N/A	N/A
8th Grade	2022	8.80%	8.30%	29,536	33,827	52	759	714	646	N/A	N/A	N/A	N/A	N/A	N/A
7th Grade	2023	8.80%	8.30%	29,175	33,413	64	630	592	535	\$664	\$624	\$565	N/A	N/A	N/A
6th Grade	2024	4.80%	4.30%	28,696	32,865	76	539	506	457	653	614	554	N/A	N/A	N/A
5th Grade	2025	4.80%	4.30%	28,162	32,253	88	472	443	399	641	601	542	N/A	N/A	N/A
4th Grade	2026	4.80%	4.30%	27,503	31,498	100	419	393	353	626	586	527	\$432	\$405	\$363
3rd Grade	2027	4.80%	4.30%	26,724	30,606	112	375	351	314	608	569	509	420	392	351
2nd Grade	2028	4.80%	4.30%	25,954	29,724	124	340	317	283	591	551	491	408	380	339
1st Grade	2029	4.80%	4.30%	25,185	28,844	136	310	289	256	573	534	474	396	368	327
Kindergarten	2030	3.00%	3.50%	24,431	27,980	148	285	265	234	556	516	457	384	356	315
4 Year Old	2031	3.00%	3.50%	23,731	27,178	160	264	245	216	540	500	441	373	345	304
3 Year Old	2032	3.00%	3.50%	23,085	26,439	172	246	228	200	526	486	426	363	335	294
2 Year Old	2033	3.00%	3.50%	22,455	25,717	184	231	213	186	511	471	412	353	325	284
1 Year Old	2034	3.00%	3.50%	21,843	25,016	196	217	199	173	497	457	398	343	316	274
Newborn	2035	3.00%	3.50%	21,248	24,335	208	205	188	163	484	444	384	334	306	265



# 2017-2018 Academic Year – Two-Year Community College and Two-Year Senior College/University Plan (Concluded)

Accounting for an average usage of 11.9/12.8 credit hours per semester													
Age/Grade of	Age/Grade of Monthly 10-Year Plan - Monthly Payment				-Year Plan - Month	ly Payment	Annual	3-Year Plan - Annua	l Payment	Annual 5-Year Plan - Annual Payment			
Beneficiary as of		<b>Lump Sum Amount</b>		Lump Sum Amount				Lump Sum Amoun	nt	Lump Sum Amount			
Sept. 1, 2017	\$0	\$2,000	\$5,000	\$0	\$2,000	\$5,000	\$0	\$2,000	\$5,000	\$0	\$2,000	\$5,000	
12th Grade	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
11th Grade	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
10th Grade	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
9th Grade	N/A	N/A	N/A	N/A	N/A	N/A	\$13,090	\$12,322	\$11,171	N/A	N/A	N/A	
8th Grade	N/A	N/A	N/A	N/A	N/A	N/A	12,984	12,216	11,065	N/A	N/A	N/A	
7th Grade	N/A	N/A	N/A	N/A	N/A	N/A	12,825	12,058	10,906	\$8,237	\$7,744	\$7,004	
6th Grade	N/A	N/A	N/A	N/A	N/A	N/A	12,615	11,847	10,696	8,102	7,608	6,869	
5th Grade	N/A	N/A	N/A	N/A	N/A	N/A	12,380	11,612	10,461	7,951	7,458	6,718	
4th Grade	N/A	N/A	N/A	N/A	N/A	N/A	12,090	11,323	10,171	7,765	7,272	6,532	
3rd Grade	N/A	N/A	N/A	N/A	N/A	N/A	11,748	10,980	9,829	7,545	7,052	6,312	
2nd Grade	\$348	\$324	\$289	N/A	N/A	N/A	11,409	10,642	9,490	7,327	6,834	6,095	
1st Grade	337	314	279	N/A	N/A	N/A	11,071	10,304	9,152	7,110	6,617	5,878	
Kindergarten	327	304	269	\$290	\$269	\$238	10,740	9,972	8,821	6,897	6,404	5,665	
4 Year Old	318	294	259	282	261	230	10,432	9,664	8,513	6,700	6,207	5,467	
3 Year Old	309	286	251	274	253	222	10,148	9,381	8,229	6,517	6,024	5,285	
2 Year Old	301	277	242	267	246	215	9,871	9,104	7,952	6,339	5,846	5,107	
1 Year Old	293	269	234	259	239	208	9,602	8,834	7,683	6,167	5,674	4,934	
Newborn	285	261	226	252	232	200	9,341	8,573	7,422	5,999	5,506	4,766	



## 2017-2018 Academic Year – Two-Year Community College Plan

Accounting for an average usage of 11.9 credit hours per semester														
Age/Grade of	Projected	Annual	Present	Lump Sum	Monthly Extended Plan Monthly Payment			Monthly 5	Monthly 5-Year Plan - Monthly Payment			Monthly 8-Year Plan - Monthly Payment		
Beneficiary as of	Enrollment	Tuition	Value	Single	Number of		Lump Sum Amount	1		Lump Sum Amount		Lump Sum Amount		
Sept. 1, 2017	Year	Increase	of Benefits	Payment	Payments	\$0	\$2,000	\$5,000	\$0	\$2,000	\$5,000	\$0	\$2,000	\$5,000
12th Grade	2018	8.30%	\$ 8,216	\$ 9,179	4	\$2,329	\$1,822	\$1,060	N/A	N/A	N/A	N/A	N/A	N/A
11th Grade	2019	8.30%	8,362	9,342	16	614	482	285	N/A	N/A	N/A	N/A	N/A	N/A
10th Grade	2020	8.30%	8,512	9,510	28	370	292	175	N/A	N/A	N/A	N/A	N/A	N/A
9th Grade	2021	8.30%	8,664	9,679	40	273	216	132	N/A	N/A	N/A	N/A	N/A	N/A
8th Grade	2022	8.30%	8,740	9,764	52	219	174	107	N/A	N/A	N/A	N/A	N/A	N/A
7th Grade	2023	8.30%	8,692	9,711	64	183	145	89	\$193	\$153	\$94	N/A	N/A	N/A
6th Grade	2024	4.30%	8,520	9,519	76	156	123	74	189	149	90	N/A	N/A	N/A
5th Grade	2025	4.30%	8,352	9,331	88	137	107	63	185	146	86	N/A	N/A	N/A
4th Grade	2026	4.30%	8,187	9,147	100	122	95	55	182	142	82	\$125	\$98	\$57
3rd Grade	2027	4.30%	8,026	8,967	112	110	85	49	178	138	79	123	96	54
2nd Grade	2028	4.30%	7,853	8,773	124	100	77	43	174	135	75	120	93	52
1st Grade	2029	4.30%	7,662	8,560	136	92	71	38	170	130	71	117	90	49
Kindergarten	2030	3.50%	7,454	8,328	148	85	64	34	166	126	66	114	87	46
4 Year Old	2031	3.50%	7,250	8,100	160	79	59	30	161	121	62	111	84	43
3 Year Old	2032	3.50%	7,053	7,880	172	73	55	27	157	117	57	108	81	39
2 Year Old	2033	3.50%	6,861	7,665	184	69	51	24	152	113	53	105	78	37
1 Year Old	2034	3.50%	6,674	7,456	196	65	47	21	148	108	49	102	75	34
Newborn	2035	3.50%	6,492	7,253	208	61	44	19	144	104	45	99	72	31



## **2017-2018** Academic Year – Two-Year Community College Plan (Concluded)

Accounting for an average usage of 11.9 credit hours per semester													
Age/Grade of	Monthly 10-Year Plan - Monthly Payment			Monthly 12-Year Plan - Monthly Payment			Annual 3	-Year Plan - Annual	Payment	Annual 5-Year Plan - Annual Payment			
Beneficiary as of		Lump Sum Amount			Lump Sum Amount	:	Lump Sum Amount			Lump Sum Amount			
Sept. 1, 2017	\$0	\$2,000	\$5,000	\$0	\$2,000	\$5,000	\$0	\$2,000	\$5,000	\$0	\$2,000	\$5,000	
12th Grade	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
11th Grade	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
10th Grade	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
9th Grade	N/A	N/A	N/A	N/A	N/A	N/A	\$3,715	\$2,948	\$1,796	N/A	N/A	N/A	
8th Grade	N/A	N/A	N/A	N/A	N/A	N/A	3,748	2,980	1,829	N/A	N/A	N/A	
7th Grade	N/A	N/A	N/A	N/A	N/A	N/A	3,727	2,960	1,808	\$2,394	\$1,901	\$1,161	
6th Grade	N/A	N/A	N/A	N/A	N/A	N/A	3,654	2,886	1,735	2,347	1,853	1,114	
5th Grade	N/A	N/A	N/A	N/A	N/A	N/A	3,582	2,814	1,662	2,300	1,807	1,068	
4th Grade	N/A	N/A	N/A	N/A	N/A	N/A	3,511	2,743	1,592	2,255	1,762	1,022	
3rd Grade	N/A	N/A	N/A	N/A	N/A	N/A	3,442	2,674	1,523	2,210	1,717	978	
2nd Grade	\$103	\$79	\$44	N/A	N/A	N/A	3,367	2,600	1,448	2,163	1,670	930	
1st Grade	100	77	42	N/A	N/A	N/A	3,286	2,518	1,366	2,110	1,617	878	
Kindergarten	97	74	39	\$86	\$66	\$35	3,197	2,429	1,277	2,053	1,560	820	
4 Year Old	95	71	36	84	63	32	3,109	2,341	1,190	1,997	1,504	764	
3 Year Old	92	69	34	82	61	30	3,025	2,257	1,105	1,942	1,449	710	
2 Year Old	90	66	31	79	59	28	2,942	2,174	1,023	1,889	1,396	657	
1 Year Old	87	64	29	77	57	25	2,862	2,094	943	1,838	1,345	605	
Newborn	85	61	26	75	54	23	2,784	2,016	865	1,788	1,295	555	



## **2017-2018** Academic Year – One-Year Community College Plan

Accounting for an average usage of 11.9 credit hours per semester														
Age/Grade of	Projected	Annual	Present	Lump Sum	M	onthly Extended P	an Monthly Paymer	nt	Monthly 5	-Year Plan - Monthl	y Payment	Monthly 8	-Year Plan - Monthl	y Payment
Beneficiary as of	Enrollment	Tuition	Value	Single	Number of		<b>Lump Sum Amount</b>			<b>Lump Sum Amount</b>			Lump Sum Amount	<u>:                                    </u>
Sept. 1, 2017	Year	Increase	of Benefits	Payment	Payments	\$0	\$2,000	\$5,000	\$0	\$2,000	\$5,000	\$0	\$2,000	\$5,000
12th Grade	2018	8.30%	\$ 4,133	\$ 4,617	4	\$1,172	\$664	N/A	N/A	N/A	N/A	N/A	N/A	N/A
11th Grade	2019	8.30%	4,206	4,699	16	309	177	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10th Grade	2020	8.30%	4,282	4,784	28	186	108	N/A	N/A	N/A	N/A	N/A	N/A	N/A
9th Grade	2021	8.30%	4,358	4,869	40	137	81	N/A	N/A	N/A	N/A	N/A	N/A	N/A
8th Grade	2022	8.30%	4,436	4,956	52	111	66	N/A	N/A	N/A	N/A	N/A	N/A	N/A
7th Grade	2023	8.30%	4,473	4,997	64	94	56	N/A	\$99	\$60	N/A	N/A	N/A	N/A
6th Grade	2024	4.30%	4,385	4,899	76	80	48	N/A	97	58	N/A	N/A	N/A	N/A
5th Grade	2025	4.30%	4,298	4,802	88	70	41	N/A	95	56	N/A	N/A	N/A	N/A
4th Grade	2026	4.30%	4,213	4,707	100	63	36	N/A	94	54	N/A	\$65	\$37	N/A
3rd Grade	2027	4.30%	4,130	4,614	112	57	32	N/A	92	52	N/A	63	36	N/A
2nd Grade	2028	4.30%	4,049	4,524	124	52	29	N/A	90	50	N/A	62	35	N/A
1st Grade	2029	4.30%	3,961	4,425	136	48	26	N/A	88	48	N/A	61	33	N/A
Kindergarten	2030	3.50%	3,853	4,305	148	44	23	N/A	86	46	N/A	59	32	N/A
4 Year Old	2031	3.50%	3,748	4,187	160	41	21	N/A	83	43	N/A	57	30	N/A
3 Year Old	2032	3.50%	3,646	4,073	172	38	19	N/A	81	41	N/A	56	28	N/A
2 Year Old	2033	3.50%	3,547	3,963	184	36	18	N/A	79	39	N/A	54	27	N/A
1 Year Old	2034	3.50%	3,450	3,854	196	33	16	N/A	77	37	N/A	53	25	N/A
Newborn	2035	3.50%	3,356	3,749	208	32	15	N/A	75	35	N/A	51	24	N/A



## **2017-2018** Academic Year – One-Year Community College Plan (Concluded)

Accounting for an average usage of 11.9 credit hours per semester													
Age/Grade of	Age/Grade of Monthly 10-Year Plan - Monthly Payment			Monthly 12-Year Plan - Monthly Payment			Annual 3	-Year Plan - Annual	Payment	Annual 5-Year Plan - Annual Payment			
Beneficiary as of		Lump Sum Amount			Lump Sum Amount	t		Lump Sum Amount	t		Lump Sum Amount		
Sept. 1, 2017	\$0	\$2,000	\$5,000	\$0	\$2,000	\$5,000	\$0	\$2,000	\$5,000	\$0	\$2,000	\$5,000	
12th Grade	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
11th Grade	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
10th Grade	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
9th Grade	N/A	N/A	N/A	N/A	N/A	N/A	\$1,869	\$1,101	N/A	N/A	N/A	N/A	
8th Grade	N/A	N/A	N/A	N/A	N/A	N/A	1,902	1,135	N/A	N/A	N/A	N/A	
7th Grade	N/A	N/A	N/A	N/A	N/A	N/A	1,918	1,150	N/A	\$1,232	\$739	N/A	
6th Grade	N/A	N/A	N/A	N/A	N/A	N/A	1,880	1,113	N/A	1,208	715	N/A	
5th Grade	N/A	N/A	N/A	N/A	N/A	N/A	1,843	1,076	N/A	1,184	691	N/A	
4th Grade	N/A	N/A	N/A	N/A	N/A	N/A	1,807	1,039	N/A	1,160	667	N/A	
3rd Grade	N/A	N/A	N/A	N/A	N/A	N/A	1,771	1,003	N/A	1,137	644	N/A	
2nd Grade	\$53	\$30	N/A	N/A	N/A	N/A	1,736	969	N/A	1,115	622	N/A	
1st Grade	52	28	N/A	N/A	N/A	N/A	1,698	931	N/A	1,091	598	N/A	
Kindergarten	50	27	N/A	\$45	\$24	N/A	1,652	885	N/A	1,061	568	N/A	
4 Year Old	49	26	N/A	43	23	N/A	1,607	839	N/A	1,032	539	N/A	
3 Year Old	48	24	N/A	42	21	N/A	1,563	796	N/A	1,004	511	N/A	
2 Year Old	46	23	N/A	41	20	N/A	1,521	753	N/A	977	484	N/A	
1 Year Old	45	22	N/A	40	19	N/A	1,479	712	N/A	950	457	N/A	
Newborn	44	20	N/A	39	18	N/A	1,439	671	N/A	924	431	N/A	





**VALUATION METHODS AND ASSUMPTIONS** 

## **2017 Valuation Methods and Assumptions**

All actuarial assumptions are estimates of future experience, not observations of estimates inherent in market data. The rationale for the assumptions are shown in our annual letter to the Board reviewing assumptions. See correspondence dated June 22, 2017 (Alternate 1). Changes to the assumptions are described in that report.

#### **Assumed Rate of Return:**

Price Inflation - 2.25% per year

Net Investment Return for Present Value of Benefits – 6.40% per year

Interest Charge for Payment Plan – 7.40% per year

#### **Assumed Rate of Tuition Increases**

4-Year Universities	Valuation Assumptions 5.65% for all future years.	Pricing Assumptions 8.80% for first 6 years; 4.80% for next 6 years; 3.00% thereafter.
2-Year Community Colleges	5.15% for all future years.	8.30% for first 6 years; 4.30% for next 6 years; 3.50% thereafter.

Utilization of Credits: Members are expected to matriculate on or after the valuation date and are expected to utilize 25.6 credits per year at the University level and 23.8 credits per year at the Community College level until they have exhausted all credits.

Pricing Methodology: Based on Weighted Average Tuition (WAT) rate increased to assumed year of payment, based on tuition rate increase assumption and discounted to payment date based on net investment return assumption. Payments are expected to be made twice per year: once in mid-September and the other in mid-February.

## Weighted Average Tuition (WAT) for the 2017/2018 Academic Year:

4-Year Universities - \$7,927

2-Year Community Colleges - \$3,115

Bias Load: Pricing for credits utilized was increased by a load for increased likelihood of Plan participants selecting more expensive in-state schools:

Senior Colleges and Universities - 2.6%

Community Colleges - 0.0%

Additional Risk Premium: Pricing for credits utilized in Senior Colleges and Universities was increased by 1.0%.



## **2017 Valuation Methods and Assumptions**

**Administrative Expenses:** Pricing was increased by 5.0%.

Refunds: None.

Mortality: None.

## Benefits for Less than 12 Credits Per Semester:

Senior Colleges and Universities – ½ WAT divided by 12 multiplied by credits used.

Community Colleges – ½ WAT divided by 11 multiplied by credits used.

Credits Acquired for Each Semester Purchased: 15.5 for both Senior Colleges/Universities and Community Colleges.



## **APPENDIX**

**BOARD'S FUNDING POLICY** 



## Mississippi Prepaid Affordable College Tuition Program Funding Policy

#### Introduction

The purpose of this Funding Policy is to record the funding objectives and policy set by the Board of Trustees (Board) for the Mississippi Prepaid Affordable College Tuition Program (MPACT). The Board establishes this Funding Policy to:

- 1) ensure that the trust will have sufficient funds to pay benefits when due;
- 2) provide guidance with establishing risk reserves for pricing of future contracts;
- 3) provide the Board with established guidelines for requesting funds from the State under the full faith and credit backing of the State of Mississippi for benefits associated with Legacy contracts.

In 2012, the College Savings Plans of Mississippi Board chose to close the Program to new participants, pending a review of methods and assumptions used to price contracts and perform actuarial valuations. After a completion of this review, the Board in 2013/2014 decided to re-open the program to new participants under new terms and using updated methods and assumptions. New contracts are to start selling effective with the 2014/2015 academic year. The program will be bifurcated in the following manner:

- 1) The program in place when MPACT was closed in 2013, including all contracts sold prior to that time and all benefits/liabilities associated with such contracts, will be referred to as the Legacy MPACT Program (or Legacy);
- 2) The new program, including all contracts sold after the program is re-opened and all benefits/liabilities associated with such contracts will be referred to as the Horizon MPACT Program (or Horizon);
- 3) Pricing for the Horizon program will be determined in a manner that all benefits promised to contract holders will be included in the determination of the pricing of such contracts;
- 4) Pricing for the Horizon program will include a surcharge for risk reserving associated with Horizon contracts; and
- 5) Pricing of Horizon contracts will not include a surcharge for paying off the Legacy unfunded liabilities.

### **Funding Goals**

- 1. The unfunded liability attributable to existing contracts (Legacy) will not be paid by future contract purchases (Horizon); and
- 2. The pricing of future contracts (Horizon) will be reflective of future expected costs for each participant purchasing a new contract with a reserve for adverse experience.

#### **Funding Target**

### 1. Legacy

a. The Board has established a funding target of 100% for the Legacy program.

### 2. Horizon

a. The Board has established a funding target of 115% for the Horizon program.



## **Board Actions if Target is Not Met**

### 1. Legacy

- a. In any year that the funded status falls below the funding target (100%), the MPACT Board will request 10% of the unfunded amount as a special appropriation from the legislature; and/or
- b. If the program is projected to be insolvent in less than 5 years, the Board will increase the appropriation request to 20%.

#### 2. Horizon

- a. In any year that the funded target is not met, but is within 200 basis points, then the explicit risk premium for new contracts will be 3% for 4-year institutions and 0% for 2-year institutions.
- b. If the funded target is not met by at least 200 basis points but less than 500 basis points, then the explicit risk premium for new contracts will be increased to 5% for 4-year institutions and 2% for 2-year institutions.
- c. If the funded target is not met by at least 500 basis points, then the explicit risk premium for new contracts will be increased to 10% for 4-year institutions and 7% for 2-year institutions.

#### 3. Full Faith and Credit

a. Both Legacy and Horizon Programs are backed by Full Faith and Credit of the state of Mississippi. It is the responsibility of the Mississippi Legislature to address funding shortfalls existing in either program.

#### **Board Actions if Target is Exceeded**

#### 1. Legacy

a. In any year that the funded status exceeds the target by 1500 basis points (in excess of 115% funded), a portion of previous state contributions will be returned to the General Fund. The portion returned will not exceed the amounts contributed and will be further limited so that the funded status does not fall below 115%.

### 2. Horizon

- a. In any year that the funded target is exceeded by less than 200 basis points, then the explicit risk premium for new contracts will be 3% for 4-year institutions and 0% for 2-year institutions.
- b. If the funded target is exceeded by at least 200 basis points but less than 500 basis points, then the explicit risk premium for new contracts will be set to 1% for 4-year institutions. The implicit premium for 2-year institutions will be reviewed and may be lowered.
- c. If the funded target is exceeded by at least 500 basis points, then the explicit risk premium for new contracts will be set to 0% for 4-year institutions. The implicit premium for 2-year institutions will be reviewed and may be lowered.
- d. If the funded target is exceeded by at least 1000 basis points, then the implicit risk premium (if any) will be reviewed and possibly lowered for both 4-year and 2-year institutions.



## **Board Review of Funding Policy**

The Board will informally review this policy annually. The Board will formally review this policy every two years until 2020 and every five years, thereafter.

## **Measurement of Funding Target**

The Board will measure the funding target in an annual valuation. The target will be the funding status, determined as follows:

The funded status will be a fraction, whose numerator is the actuarial value of assets plus the present value of future contract payments for contracts already sold as of the valuation date;

The denominator will be the present value of future expected benefit payments and expenses.

Present values and expected payments will be based on the actuarial assumptions adopted by the Board for purposes of the annual actuarial valuation.

For this purpose, the actuarial value of assets will be a market related value that recognizes investment return above or below the assumed investment return over a 3 year period. In no event will the actuarial value of assets be less than 80% of market or more than 120% of market.

## Glossary

- 1. **Actuarial Liability (AL):** The actuarial present value of future expected plan benefits and expenses.
- 2. Actuarial Assumptions: Estimates of future plan experience with respect to rates of mortality, disability, turnover, retirement, rate or rates of investment income and salary increases. Decrement assumptions (rates of mortality, disability, turnover and retirement) are generally based on past experience, often modified for projected changes in conditions. Economic assumptions (salary increases and investment income) consist of an underlying rate in an inflation-free environment plus a provision for a long-term average rate of inflation.
- 3. Actuarial Value of Assets: The value of current plan assets recognized for valuation purposes (generally based on a phased-in recognition of all or a portion of market related investment return) plus the present value of future contract payments for contract already initiated as of the valuation date. Sometimes referred to as Funding Value of Assets.
- 4. **Market Value of Assets:** The fair value of plan assets as reported in the plan's audited financial statements.
- 5. **Unfunded Actuarial Liability (UAL):** The positive difference, if any, between the actuarial liability and valuation assets. Sometimes referred to as "unfunded accrued liability."